Amendments to the Claims

This listing of claims will replace all prior listings of claims in the application.

Listing of Claims

1. (Original) A hollow carbon nanoballoon structure comprising graphite sheets linked to form a curved surface and having a diameter of 20 to 500 nm, the diameter being a value obtained by averaging a length of the structure in a direction of an X-axis passing through a center of the structure and a length of the structure in a Y-axis direction passing through the center and perpendicularly intersecting the X-axis.

2. (Original) The carbon nanoballoon structure according to claim 1, wherein the number of the graphite sheets is 1 to 30.

3. (Previously Presented) The carbon nanoballoon structure according to claim 1, having a void content of 30 to 99%, the void content being determined by calculating the diameter of the structure by averaging the length of the structure in the direction of the X-axis passing through the center of the structure and the length of the structure in the direction of the Y-axis passing through the center and perpendicularly intersecting the X-axis, approximating the volume of the structure as a sphere, calculating the diameter of the hollow portion by subtracting a value twice the thickness of the graphite sheet (graphene) from the diameter of the structure, approximating the volume of the hollow portion as a sphere, and calculating (volume of the hollow portion/volume of the structure) × 100%.

4. (Previously Presented) The carbon nanoballoon structure according to claim 1, wherein an opening reaching the hollow portion is formed in the structure.

5. (Canceled)

6. (Canceled)

7. (Previously Presented) An electron emitter which emits electrons upon application of an electric field between an extractor electrode and a cathode electrode positioned close to the extractor electrode and including an emitter material, the emitter material including the carbon nanoballoon structure according to claim 1.

8. (New) A method of producing a carbon nanoballoon structure having a hollow portion, comprising the step of heating carbon black having a specific surface area of at least 1000 m^2/g and a primary particle diameter of at least 20 nm to a temperature of at least 2000°C in an inert gas atmosphere.

9. (New) A method of producing a carbon nanoballoon structure having a hollow portion and an opening having a diameter of 0.1 to 50 nm which extends to the hollow portion, which comprises the steps of heating carbon black having a specific surface area of at least 1000 m^2/g and a primary particle diameter of at least 20 nm to a temperature of at least 2000°C in an inert gas atmosphere to form a carbon nanoballoon structure having a hollow portion and oxidizing the carbon nanoballoon structure having a hollow portion in an oxygen-containing atmosphere to form the carbon nanoballoon structure having a hollow portion and an opening having a diameter of 0.1 to 50 nm which extends to the hollow portion.